

**Notice of Allowability**

Application No.

09/955,288

Examiner

José R. Díaz

Applicant(s)

LEE, JOO-HYONG

Art Unit

2815

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/28/04.
2. ☒ The allowed claim(s) is/are 1-4, 13-19, 21-24, 26, 29-38 and 40.
3. ☒ The drawings filed on 19 September 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☒ Certified copies of the priority documents have been received in Application No. 09/290,891.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

*Tom Thomas*  
**TOM THOMAS**  
**SUPERVISORY**  
**TECHNOLOGY**

### **REASONS FOR ALLOWANCE**

1. The following is an examiner's statement of reasons for allowance:
  - a. With regards to claim 1, the prior art fails to teach, disclose, or suggest, either alone or in combination, a first heavily doped region of buried layer having a second conductivity type formed in the first well at a distance away from the first contact region and the field oxide regions, wherein the first heavily doped region does not extend under the first MOS transistor, and is not below a field oxide layer, and wherein said field oxide layer separates the first well and a second well.
  - b. With regards to claim 15, the prior art fails to teach, disclose, or suggest, either alone or in combination, a heavily doped region of buried layer having a first conductivity type formed in the second well at a distance away from the second contact region and the field oxide regions, and a heavily doped region of buried layer having a second conductivity type formed in the first well, wherein the heavily doped region having the second conductivity type is isolated within the first well and separated from boundaries that form the first well.
  - c. With regards to claim 24, the prior art fails to teach, disclose, or suggest, either alone or in combination, a field oxide layer formed on a portion of the semiconductor substrate where the first well and the second well contact one another; a heavily doped region of buried layer having a second conductivity type formed in the first well; and a heavily doped region of buried layer having a first conductivity type formed in the second

Art Unit: 2815

well, wherein the heavily doped region having the first conductivity type, the second conductivity type or the first and second conductivity type is/are not below the field oxide layer.

d. With regards to claim 35, the prior art fails to teach, disclose, or suggest, either alone or in combination, a heavily doped region of buried layer having a second conductivity type formed in the first well at a distance away from the first contact region and the field oxide regions, wherein the first heavily doped region does not extend under the first MOS transistor.

e. With regards to claim 40, the prior art fails to teach, disclose, or suggest, either alone or in combination, a heavily doped region of buried layer having a second conductivity type formed in the first well, wherein the heavily doped region having the second conductivity type is isolated within the first well and separated from boundaries that form the first well; and a heavily doped region of buried layer having a first conductivity type formed in the second well, wherein the heavily doped region having the first conductivity type is isolated within the second well and separated from boundaries that form the second well.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

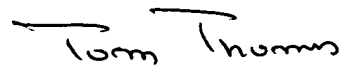
Art Unit: 2815

***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to José R. Díaz whose telephone number is (571) 272-1727. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
TOM THOMASSUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800JRD  
8/3/04